We claim:

1. In a sending station operable to transmit a send signal, once amplified by an amplifier, an improvement of apparatus for compensating for distortion introduced upon the send signal when amplified by the amplifier, said apparatus comprising:

a phase rotator coupled to receive indications of the send signal prior to amplification by the amplifier, said phase rotator for selectably rotating a phase component of the send signal; and

a distortion estimator coupled to receive the indications of the send signal prior to amplification by the amplifier and to receive indications of the send signal subsequent to amplification by the amplifier, and to receive indications of the send signal subsequent to amplification by the amplifier, said distortion estimator for estimating an indicia of distortion of the send signal due to amplification thereof by the amplifier and for providing a distortion estimate signal to said phase rotator, values of the distortion estimate signal determinative of rotation by said phase rotator of the phase component of the send signal.

2. The apparatus of claim 1 wherein said phase rotator rotates the phase component of the send signal responsive to a characterization of an AM (amplitude modulation)-to-PM (phase modulation) response of the amplifier.

3. The apparatus of claim 2 wherein the characterization of the AM-to-PM response of the amplifier comprises at least a first parameter and wherein the distortion estimate signal comprises a value of the at least the first parameter.

4. The apparatus of claim 2 wherein the characterization of the AM-to-PM response of the amplifier defines a phase distortion characteristic of the send signal, the phase distortion characteristic responsive to an input power level of the send signal.

5. The apparatus of claim 4 wherein said distortion estimator further determines a value of the input power level of the send signal and wherein the distortion estimate signal comprises an indication of the value of the input power level determined thereat.

6. The apparatus of claim 4 wherein the phase distortion characteristic is of a substantially constant level when the input power level of the send signal is less than a first threshold.

7. The apparatus of claim 5 wherein the phase distortion characteristic is proportional to the input power level of the send signal when the input power level is at least as great as the first threshold.

8. The apparatus of claim 1 wherein the indicia of distortion is related to a difference determined between values of the send signal prior to amplification by the amplifier and corresponding values of the send signal subsequent to amplification by the amplifier.

9. The apparatus of claim 8 wherein the send signal is formed of successive symbols, each symbol selected from a constellation of symbols, and wherein the indicia of distortion is related to differences determined between values of symbols, prior to amplification by the amplifier and subsequent to amplification by the amplifier of a set of a selected set size of the selected symbols.

10. The apparatus of claim 1 wherein the sending station is further selectably operable to apply training data to the amplifier, the training data of known values, wherein said phase rotator is coupled to receive indications of the training data, and wherein said distortion estimator estimate an indicia of distortion of the training data due to amplification of the training data by the amplifier.

11. The apparatus of claim 1 wherein the sending station is operable in a communication system which utilizes a QPSK (Quadrature Phase Shift-Keying) scheme, the send signal formed of QPSK symbols defined in the QPSK scheme, said phase rotator for rotating the phase components of the QPSK symbols responsive to values of the distortion estimate signal.

12. The apparatus of claim 11 wherein the sending station forms a portion of a radio transceiver operable in a CDMA (code-division, multiple-access) cellular communication system, wherein each QPSK symbol includes a phase component and a magnitude component, and wherein rotation of the phase component caused by said phase rotator alters the phase component of the QPSK symbol without altering the phase component of the QPSK symbol.

13. In a method for sending a send signal, once amplified by an amplifier, at a sending station, an improvement of a method for compensating for distortion introduced upon the send signal when amplified by the amplifier, said method comprising:

estimating an indicia of distortion of the send signal due to amplification thereof by the amplifier; and

selectably rotating a phase component of the send signal responsive to the indicia of distortion estimated during said operation of estimating.

14. The method of claim 13 wherein the send signal comprises a phase component and a magnitude component and wherein said operation of selectably rotating rotates the phase component of the send signal without altering the magnitude component of the send signal.

15. The method of claim 13 wherein rotation of the send signal during said operation of rotating further comprises characterizing an AM (amplitude modulation)-to-PM (phase modulation) response of the amplifier.

16. The method of claim 15 the AM-to-PM response of the modulator includes at least a first parameter and wherein said operation of estimating the indicia of distortion further comprises selecting a value of the at least the first parameter, rotation of the phase component during said operation of selectably rotating responsive to the value selected of the at least the first parameter.

17. The method of claim 16 wherein the AM-to-PM response of the amplifier characterized during said operation of characterizing defines a phase distortion characteristic of the send signal, the phase distortion characteristic responsive to an input power level of the send signal.

18. The method of claim 17 wherein said operation of estimating further estimates a value of the input power level of the send signal.

19. The method of claim 18 wherein the phase distortion characteristic defined during said operation of characterizing is of a substantially constant level when the input power level of the send signal is less than a first threshold.

20. The method of claim 19 wherein the phase distortion characteristic is proportional to the input power level of the send signal when the input power level is at least as great as the first threshold.